RV Brooks McCall Data Summary
Cruise 6/19/2010

Review Date 6/20/10

Summary:

This sampling report presents data collected from the RV Brooks McCall for the period of 6/19/2010. The RV Brooks McCall will alternate with the Ocean Veritas in the collection of subsurface data associated with the Deepwater Horizon oil spill. Stations occupied during this reporting period include BM95, BM96, BM97, BM98 and BM99. Stations BM95 was located 10 km northeast of the well head, BM96 was located 10 km north of the wellhead, BM97 was located 10 km northwest of the wellhead, BM98 was located 5 km northwest of the wellhead and BM99 was located 3 km north-northwest of the wellhead. The sampling strategy for the day was to delineate the outer extent and northwest edge of the subsurface plume. A total of 5 CTD casts were completed.

The CTD array data showed weak fluorescence signals at stations BM95 and BM98, and no significant fluorescence signals at any of the other stations sampled on 6/19/10.

A total of 17,780 gallons of subsurface dispersant was used on 6/19/2010. The average injection rate was not provided. The dispersant was disrupted for a total of 33 minutes.

Rototox data submitted for samples BM87-90 on 6/18/2010 (after the daily report was submitted) showed no significant toxicity. Rototox tests were started today for samples BM91-96, with results due to be reported on 6/20/2010. Tests for BM97- BM99 will be started tomorrow (6/20/2010), with reporting due on 6/21/2010. The vessel also collected eighty-five (85) samples for TPH and eighty-five (85) samples for VOC analysis, including duplicates.

LISST and CTD Fluorometer:

Water samples were collected at all 5 stations. The *in situ* CTD fluorometer recorded weak fluorescence signals at stations BM95 and BM98 at approximately 1100-1140 m. Stations BM96, BM97 and BM99 showed no significant fluorescence spikes at any depth.

The LISST data collected at the four sampled stations is considered to reflect biological background readings, and not small dispersed oil particulates. Eighty - five (85) LISST samples were collected from all five sample locations. All stations showed moderate to high small particle concentrations at the surface layer (0.5m). Station BM98 also showed a high small particle concentration at 75m. Station BM96 showed evidence of a slightly elevated small particle

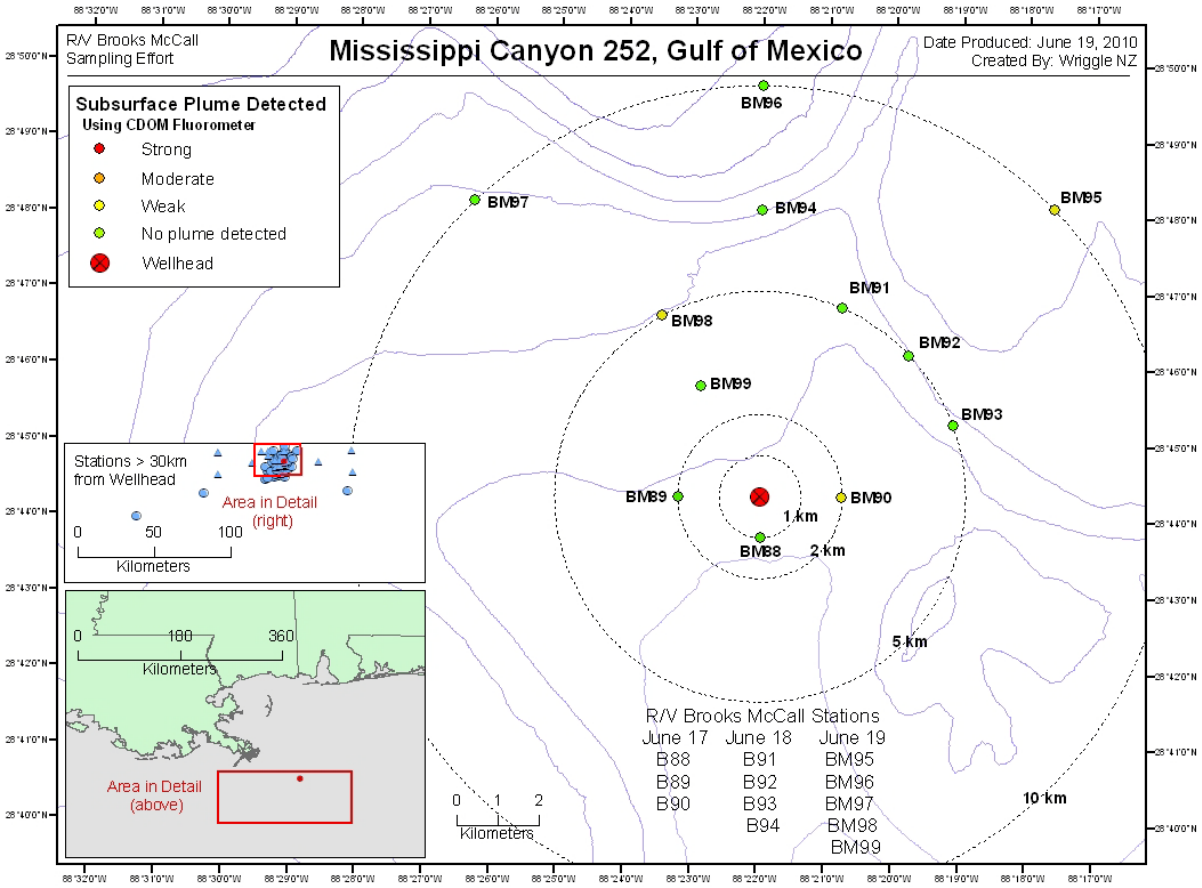
concentration at 500m. All stations except BM99 showed a small elevation in small particle concentration near the bottom.

Dissolved Oxygen:
The CTD instrument includes a dissolved oxygen probe. The Brooks McCall typically reports D.O. data in mg/l, while the Ocean Veritas reports D.O. data in ml/l. Stations BM95 and BM98 both had decreases in D.O. associated with the fluorescence spikes at 1100 m and 1140 m, respectively. Despite the lack of fluorescence at the other sampling locations, decreases in dissolved oxygen were observed at stations BM96, BM97 and BM99 at varying depths.

The consistent pattern emerging during this voyage is the presence of a slight D.O. drop at depths where previous voyages were detecting subsurface oil. As much of the current voyage sampled outside of areas where the subsurface plume was predicted to be located (primarily avoid working in the surface oil plume for health and safety reasons), the absence of a strong fluorescence signal is not surprising. However, the continued presence of a D.O. sag at these depths may reflect the ongoing biological response from oil-degrading bacteria in the absence of a concentrated oil plume being present.

Toxicity Testing (Rototox Assay) (data collected from 6/19)
Rototox data submitted for samples BM87-90 on 6/18/2010 (after the daily report was submitted) showed no significant toxicity. Rototox tests were started today for samples BM91-96, with results due to be reported on 6/20/2010. Tests for BM97- BM99 will be started tomorrow (6/20/2010), with reporting due on 6/21/2010.

Chemical Analyses (TPH and VOCs) (data collected from 6/19)
Eighty-five (85) samples were collected for TPH analysis and eighty-five (85) samples were collected for VOC analysis. No data were provided for review at this time due to laboratory lag time.


Mississippi Canyon 252, Gulf of Mexico
R/V Brooks McCall
Sampling Effort
Date Produced: June 19, 2010
Created By: Wriggle NZ
Subsurface Plume Detected
Using CDOM Fluorometer
Strong
Moderate
Weak
No plume detected
Wellhead
BM96
BM97
BM94
BM95
BM91
BM98
BM92
BM99
BM93
BM89
BM90
BM88
1 km
2 km
5 km
10 km
Stations > 30km
from Wellhead
Area in Detail
(right)
0
50
100
Kilometers
0
180
360
Kilometers
Area in Detail
(above)
0
1
2
Kilometers
R/V Brooks McCall Stations
June 17
B88
B89
B90
June 18
B91
B92
B93
B94
June 19
BM95
BM96
BM97
BM98
BM99